REMARKS

By this Amendment, claims 1, 2 and 11 are amended. Thus, claims 1, 2 and 11 are active in the application. Reexamination and reconsideration of the application are respectfully requested.

In item 3 on page 4 of the Office Action, claims 1, 2 and 11 were rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-3 of U.S. Patent No. 6,791,926 (the parent application).

Without intending to acquiesce to this rejection and merely to expedite allowance of the application, the Applicants submit herewith a Terminal Disclaimer under 37 CFR 1.321, which is signed by a registered attorney of record, together with the fee required under 37 CFR 1.20(d) to overcome the obviousness-type double patenting rejection of claims 1, 2 and 11.

In view of the Terminal Disclaimer submitted herewith, the Applicants submit that the obviousness-type double patenting rejection of claims 1, 2 and 11 has been overcome. Therefore, the Applicants respectfully request that the obviousness-type double patenting rejection of claims 1, 2 and 11 be withdrawn.

In item 7 on page 6 of the Office Action, claims 1, 2 and 11 were rejected under 35 U.S.C. § 102(b) as being anticipated by Spruit et al. (U.S. 5,617,399, hereinafter "Spruit").

Without intending to acquiesce to this rejection, independent claims 1 and 11 have each been amended in order to more clearly illustrate the marked differences between the present invention and the applied reference. Accordingly, the Applicants respectfully submit that the present invention is patentable over Spruit for the following reasons.

The present invention provides a method and apparatus for obtaining a recording pulse parameter by reading recording pulse parameters from a writable optical disc. The present invention provides that recording pulse parameters are prerecorded to the writable optical disc, and that the recording pulse parameters define recording pulse position information.

Further, the present invention provides that the prerecorded recording pulse position information defines (A) either one of a leading mark-edge pulse parameter and a

trailing mark-edge pulse parameter for each of plural possible mark length and space length combinations.

The method and apparatus of the present invention perform a first test write to the optical disc using the recording pulse position information for all mark length and space length combinations in the recording pulse parameters, reproduce the first test write, and detect a first jitter from the reproduced signal.

Further, (B) the method and apparatus of the present invention add a first specific amount of change uniformly to the prerecorded recording pulse information to change either one of the leading mark-edge pulse parameter and the trailing mark-pulse edge parameter for all mark length and space length combinations in the recording pulse parameters, so as to uniformly change the recording pulse position information. By using the uniformly changed recording pulse position information, the method and apparatus of the present invention then perform a second test write to the optical disc.

Features (A) and (B) provide the following novel characteristics of the present invention. First, the leading mark-edge and the trailing mark-edge length can be controlled independently. Second, the width of the mark can be maintained constant even when the length of the mark is changed.

Attachment A is submitted herewith to illustrate features (A) and (B) of the present invention.

According to the present invention, as shown in (2) of Attachment A, marks are written on the disk with a pulse having an initial pulse length (it is to be noted that a plurality of pulses are written in the present invention, but only one pulse is shown for ease of illustration). The ideal mark that is to be written is shown in (1) of Attachment A, which has a longer mark length.

Next, the mark shown in (3) of Attachment A is reproduced and the jitter is detected. Thereafter, an elongated pulse, as shown in (4) of Attachment A, is used for writing on the disk, and the obtained result is shown in (5) of Attachment A.

Since the jitter for the mark shown in (5) of Attachment A shows a more improved level than that of (3) of Attachment A, the elongated pulse shown in (5) of Attachment A is selected for writing. The jitter for the mark of (5) of Attachment A is

more improved because the length of this mark is made as nearly equal to the length of the ideal mark shown in (1) of Attachment A.

Accordingly, by adding a first specific amount of change to recording pulse position information to change either one of a leading edge-mark parameter or a trailing edge-mark parameter, the present invention provides the following advantages. First, the leading mark-edge and the trailing mark-edge length can be controlled independently. Second, the width of the mark can be maintained constant even when the length of the mark is changed.

Claims 1 and 11 have each been amended to recite features A and B of the present invention.

In particular, claims 1 and 11 have each been amended to recite that the recording pulse position information defines (A) either one of a leading mark-edge pulse parameter and a trailing mark-edge pulse parameter for each of plural possible mark length and space length combinations.

Further, claims 1 and 11 have each been amended to recite that (B) a first specific amount of change is uniformly added to the prerecorded recording pulse information to change either one of the leading mark-edge pulse parameter and the trailing mark-pulse edge parameter for all mark length and space length combinations in the recording pulse parameters, so as to uniformly change the recording pulse position information, and so that a second test write is performed using the uniformly changed recording pulse position information.

Features (A) and (B) of claims 1 and 11 are not disclosed or suggested by Spruit for the following reasons.

Spruit discloses that a recording pulse is controlled by a write intensity E which is a value of a radiation beam 15 that is focused on a recording layer 6. In particular, Spruit discloses a method for determining an optimal value for the write intensity E of the value of the radiation beam 15 (see Column 1, lines 25-56 and Column 7, lines 14-45). The Examiner contends that Spruit controls a recording position of recorded pulses by modulating a first test write to determine a Byte Error Rate for correcting errors of the test write as compared with an original write (see Column 5, line 42 to Column 6, line 34). However, Spruit corrects writing errors by adjusting an applied pulse power level.

Attachment B is submitted herewith to illustrate the operations of Spruit for writing a pattern.

According to Spruit, as shown in (2) of Attachment B, marks are written on the disk with a pulse having an initial power P1, and the obtained result is shown in (3) of Attachment B. The ideal mark that is to be written is shown in (1) of Attachment B, which has a longer mark length. The mark shown in (3) of Attachment B is reproduced and the jitter is detected.

Thereafter, an increased power P2, as shown in (4) of Attachment B, is used for writing on the disk, and the obtained result is shown in (5) of Attachment B. The mark shown in (5) of Attachment B is reproduced and the jitter is detected. Since the jitter for the mark shown in (5) of Attachment B has a more improved level, the pulse with the increased power P2 is selected for writing. The jitter for the mark shown in (5) of Attachment B is more improved because the length of the mark is made as nearly as equal to the length of the ideal mark shown in (1) of Attachment B.

However, Spruit suffers from the following problems which are solved by features (A) and (B) of claims 1 and 11. First, in the case where the mark length is to be changed only in the leading edge direction or in the trailing edge direction (see (4) of Attachment A), such an adjustment cannot be performed by merely increasing or decreasing the power. Second, in the case where a long mark is adjusted to make it longer, the width of the elongated mark is also made wider, which results in undesirable cross-talk between neighboring tracks.

Accordingly, by merely adjusting the power to increase the length of a mark, Spruit clearly cannot separately make a precise adjustment in the leading edge direction or in the trailing edge direction, as increasing or decreasing the power adjusts both the leading and trailing edge directions by expanding the width of a recorded mark.

On the other hand, by including features (A) and (B), the inventions of claims 1 and 11 independently control a leading mark edge and a trailing mark edge, and maintain the width of the mark as constant when the leading and/or trailing mark edges is/are changed.

Accordingly, Spruit clearly does not disclose or suggest:

(A) the recording pulse position information defines either one of a leading mark-edge pulse parameter and a trailing mark-edge pulse parameter for each of plural possible mark length and space length combinations, and

(B) a first specific amount of change is uniformly added to the prerecorded recording pulse parameter to change either one of the leading mark-edge pulse parameter and the trailing mark-pulse edge parameter for all mark length and space length combinations in the recording pulse parameters, so as to uniformly change the recording pulse position information, and so that a second test write is performed using the uniformly changed recording pulse position information, as recited in claims 1 and 11.

Therefore, for at least the foregoing reasons, Spruit clearly fails to disclose or suggest each and every limitation of claims 1 and 11.

Accordingly, claims 1 and 11 are clearly not anticipated by Spruit since Spruit fails to disclose or suggest each and every limitation of claims 1 and 11.

Furthermore, in view of the marked differences between the inventions of claims 1 and 11 and Spruit, the Applicants respectfully submit that one skilled in the art would not have been motivated to modify Spruit in such a manner as to result in, or otherwise render obvious, the inventions of claims 1 and 11.

Therefore, the Applicants respectfully submit that claims 1 and 11, as well as claim 2 which depends therefrom, are clearly allowable over the prior art as applied by the Examiner.

In view of the foregoing amendments and remarks, it is respectfully submitted that the present application is clearly in condition for allowance. An early notice thereof is respectfully solicited.

If, after reviewing this Amendment, the Examiner feels there are any issues remaining which must be resolved before the application can be passed to issue, the Examiner is respectfully requested to contact the undersigned by telephone in order to resolve such issues.

A fee and a Petition for a two-month Extension of Time are filed herewith pursuant to 37 CFR § 1.136(a).

Respectfully submitted,

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February 20, 2007